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Mineral Industry Surveys

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CHROMIUM IN JUNE 2004

On the basis of gross weight, consumption of chromium ferroalloys and metal in June 2004 decreased slightly compared with revised consumption in May 2004; consumption in the second quarter 2004 increased 6% compared with consumption in the first quarter 2004 and increased 8% compared with consumption in the second quarter 2003, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in June 2004, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of June 2004, and U.S. foreign trade data for selected chromium-containing materials in May 2004.

Update

The Defense National Stockpile Center (DNSC) issued amendment number 13 to Solicitation of Offers, DLA-Ferrochromium-004, Basic Ordering Agreement (BOA) for Ferrochromium. The amendment added 16 piles of high-carbon ferrochromium at Baltimore, MD, 9.82 metric tons (t) of low-carbon ferrochromium at Sharonville, OH, and 2 piles of low-carbon ferrochromium at Belle Mead, NJ, to the materials offered for sale (Defense National Stockpile Center, 2004b).

The DNSC announced the sale of 7,484 t of ferrochromium in July, all of which was high-carbon ferrochromium, for $6.83 million or $0.414 per pound-gross weight (Defense National Stockpile Center 2004a).

References Cited

Defense National Stockpile Center, 2004a, Stockpile announces ferrochromium sales for July 2004: Defense National Stockpile Center, News Release DNSC-04-2495, August 5, 1 p.

Defense National Stockpile Center, 2004b, Stockpile issues ferrochromium amendment: Defense National Stockpile Center, News Release DNSC-04-2498, August 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2003	2004				
	January-December[2]	First quarter[2]	April	May	June	January-June[2]
Production:						
Stainless steel production[3]	2,210,000	584,000	201,000	196,000	214,000	1,150,000 [4]
Components of U.S. supply:						
Stainless steel scrap receipts	757,000	209,000	65,500 [r]	66,000 [r]	67,500	408,000
Stainless steel scrap consumption	1,070,000	281,000	94,500 [r]	95,400 [r]	94,000	565,000
Imports for consumption:						
Chromite ore	173,000	37,100	13,400	10,000	NA	60,500 [5]
Ferrochromium:						
More than 4% carbon	366,000	55,800	47,900	21,900	NA	126,000 [5]
More than 0.5%, but not more than 3% carbon	5,340	22	963	759	NA	1,740 [5]
Not more than 0.5% carbon	19,500	5,840	2,970	1,980	NA	10,800 [5]
Ferrochromium silicon	38,700	5,050	6,120	500	NA	11,700 [5]
Total ferroalloy imports	429,000	66,700	58,000	25,100	NA	150,000 [5]
Chromium metal[6]	8,570	2,400	1,230	800	NA	4,430 [5]
Stainless steel	639,000	160,000	58,500	71,300	NA	289,000 [5]
Stainless steel scrap	89,200	48,100	12,100	9,070	NA	69,300 [5]
Distribution of U.S. supply:						
Industry consumer, chromium ferroalloys and metal	420,000	105,000	36,900	37,500 [r]	36,600	216,000
Exports:						
Chromite ore	103,000	3,670	1,340	3,920	NA	8,930 [5]
Chromium ferroalloys:						
High-carbon ferrochromium	3,180	2,930	423	216	NA	3,570 [5]
Low-carbon ferrochromium	1,230	458	81	21	NA	559 [5]
Ferrochromium silicon	481	314	119	133	NA	565 [5]
Total ferroalloy exports	4,890	3,700	623	370	NA	4,700 [5]
Chromium metal	941	206	69	177	NA	452 [5]
Stainless steel	327,000	91,900	27,200	25,200	NA	144,000 [5]
Stainless steel scrap	505,000	116,000	35,400	41,300	NA	193,000 [5]
Stocks at end of period:						
Industry consumer, chromium ferroalloys and metal	16,700	XX	22,800	20,800	22,800	XX
Government stockpile:						
Chromite ore	154,000	XX	--	--	--	XX
Chromium ferroalloys	683,000	XX	645,000	638,000	633,000	XX
Chromium metal	6,660	XX	6,660	6,660	6,660	XX

[r]Revised. NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May contain revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]May include revised data that is not broken out by specific month.

[5]Includes January through May data; June data not available.

[6]Includes waste and scrap and other.

TABLE 2

U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2004[1]

(Metric tons, gross weight unless otherwise noted)

	May	June	January-June[2]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	327	351	1,880
High-strength low-alloy steel	703 r	514	3,750
Stainless and heat-resisting steel	32,600	31,900	188,000
Full alloy steel	1,610 r	1,650	8,790
Electrical steel	W	W	W
Tool steel	497	390	2,850
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	765	759	4,340
Other alloys[3]	71	73	396
Total	37,500 r	36,600	216,000
Total, chromium content	21,900 r	21,600	126,000
Consumption by material:			
Low-carbon ferrochromium	1,980 r	1,830	11,800
High-carbon ferrochromium	31,800 r	31,000	183,000
Ferrochromium silicon	3,140	3,120	17,300
Chromium metal	387	400	2,260
Chromite ore	W	W	W
Chromium-aluminum alloy	36	33	199
Other chromium materials	W	W	W
Total	37,500 r	36,600	216,000
Total, chromium content	21,900 r	21,600	126,000
Consumer stocks:			
Low-carbon ferrochromium	1,910	1,830	XX
High-carbon ferrochromium	W	W	XX
Ferrochromium silicon	1,300	1,060	XX
Chromium metal	183	259	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	30	39	XX
Other chromium materials	W	W	XX
Total	20,800	22,800	XX
Total, chromium content	12,300	13,700	XX

[r]Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromite ore		Chromium ferroalloys		Chromium metal
	Chemical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2003:					
June	71,500	83,700	497,000	226,000	7,160
July	64,700	83,700	492,000	225,000	7,150
August	71,500 [3]	82,100	484,000	220,000	7,150
September	70,900	82,600 [3]	482,000	218,000	7,100
October	71,500 [3]	82,600	477,000	218,000	7,120 [3]
November	71,500	82,600	472,000	217,000	7,120
December	71,500	82,600	466,000	217,000	6,660
2004:					
January	--	82,600	462,000	215,000	6,660
February	--	82,100	453,000	212,000	6,660
March	--	82,100	453,000	212,000	6,660
April	--	--	436,000	209,000	6,660
May	--	--	430,000	208,000	6,660
June	--	--	425,000	208,000	6,660

-- Zero.

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

[3]The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2003:							
May	444	$124	317	190	$276	72	$912
June	1,030	204	756	443	653	46	579
July	985	202	273	150	252	95	1,030
August	22,900	949	387	232	455	119	1,320
September	17,200	626	378	211	479	47	1,160
October	1,030	214	393	208	485	72	1,350
November	634	194	462	262	502	152	2,120
December	54,600	4,090	502	285	548	65	958
January-December	103,000	7,410	4,890	2,830	5,240	941	11,900
2004:							
January	223	74	583	344	767	76	1,520
February	2,510	548	685	409	1,040	76	1,660
March	938	290	2,440	1,400	2,940	54	1,710
April	1,340	359	623	348	735	69	2,230
May	3,920	480	370	198	443	177	1,850
January-May	8,930	1,750	4,700	2,700	5,920	452	8,960

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2003	2004			
	January-December[2]	March	April	May	January-May[2]
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	77	33	--	--	33
Chromic oxide content	24	13	--	--	13
More than 40% but less than 46% chromic oxide:					
Gross weight	7,940	71	146	97	567
Chromic oxide content	3,370	32	66	44	255
46% or more chromic oxide:					
Gross weight	165,000	11,200	13,200	9,950	59,900
Chromic oxide content	77,400	5,430	6,090	4,600	27,900
Total, all grades:					
Gross weight	173,000	11,300	13,400	10,000	60,500
Chromic oxide content	80,800	5,480	6,160	4,640	28,200
Ferrochromium:					
Low-carbon:[3]					
Not more than 0.5%:					
Gross weight	19,500	4,290	2,970	1,980	10,800
Chromium content	13,300	2,940	2,030	1,360	7,300
More than 0.5% but not more than 3%:					
Gross weight	5,340	--	963	759	1,740
Chromium content	3,420	--	669	499	1,180
Total, low-carbon:					
Gross weight	24,900	4,290	3,940	2,730	12,500
Chromium content	16,800	2,940	2,700	1,850	8,480
High-carbon:[4]					
Gross weight	366,000	5,180	47,900	21,900	126,000
Chromium content	210,000	2,880	27,200	11,700	69,300
Total, all grades:					
Gross weight	391,000	9,460	51,900	24,600	138,000
Chromium content	227,000	5,820	29,900	13,500	77,800
Chromium metal:					
Unwrought powders	1,810	77	131	154	683
Waste and scrap	284	2	8	2	28
Other than waste and scrap amd unwrought powders	6,480	728	1,090	644	3,710
Total, all grades	8,570	807	1,230	800	4,430

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	May			January-May[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
India	87	56	$90	87	56	$90
Kazakhstan	--	--	--	25,100	17,400	21,700
Malta and Gozo	--	--	--	60	36	42
Russia	--	--	--	29	19	18
Saudi Arabia	--	--	--	20	11	16
South Africa	14,200	7,120	8,660	82,700	41,300	42,700
Zimbabwe	7,650	4,480	4,630	17,600	10,500	10,900
Total	21,900	11,700	13,400	126,000	69,300	75,500
Low-carbon ferrochromium:[5]						
More than 0.5% but not more than 3% carbon						
Germany	--	--	--	63	44	72
Kazakhstan	--	--	--	800	554	1,300
Russia	459	316	738	581	402	920
South Africa	300	183	319	300	183	319
Total	759	499	1,060	1,740	1,180	2,610
Not more than 0.5% carbon:						
Belgium	100	70	139	100	70	139
China	40	26	62	40	26	62
Germany	517	367	841	1,610	1,130	2,530
Japan	200	140	446	761	545	1,750
Kazakhstan	--	--	--	150	106	165
Russia	824	578	1,200	6,700	4,590	8,050
South Africa	275	161	325	1,390	806	1,140
Turkey	20	13	40	40	26	79
Total	1,980	1,360	3,050	10,800	7,300	13,900
All grades:						
Belgium	100	70	139	100	70	139
China	40	26	62	40	26	62
Germany	517	367	841	1,670	1,180	2,600
India	87	56	90	87	56	90
Japan	200	140	446	761	545	1,750
Kazakhstan	--	--	--	26,000	18,100	23,200
Malta and Gozo	--	--	--	60	36	42
Russia	1,280	894	1,940	7,310	5,010	8,990
Saudi Arabia	--	--	--	20	11	16
South Africa	14,700	7,470	9,310	84,400	42,300	44,200
Turkey	20	13	40	40	26	79
Zimbabwe	7,650	4,480	4,630	17,600	10,500	10,900
Total	24,600	13,500	17,500	138,000	77,800	92,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	May		January-May[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	40	$182	180	$697
France	1	8	4	23
Germany	19	104	40	211
Japan	21	342	85	1,240
Russia	37	157	253	1,480
Spain	36	103	104	347
Taiwan	--	--	15	21
United Kingdom	(4)	33	1	232
Total	154	929	683	4,250
Waste and scrap:				
Germany	--	--	2	21
Japan	1	13	12	48
Malaysia	(4)	7	(4)	7
Singapore	--	--	8	42
Sweden	--	--	2	6
Taiwan	--	--	4	23
Total	2	19	28	147
Other than waste and scrap and unwrought powders:				
Austria	--	--	(4)	5
China	325	1,360	1,010	3,970
France	146	1,090	842	6,270
Germany	(4)	35	11	252
Hong Kong	--	--	4	9
Italy	--	--	(4)	3
Japan	--	--	1	45
Mexico	--	--	3	16
Netherlands	--	--	(4)	3
Russia	(4)	7	920	4,430
Singapore	--	--	1	22
Switzerland	--	--	(4)	30
Taiwan	2	15	5	21
United Kingdom	172	941	916	4,990
Total	644	3,440	3,710	20,100
All grades:				
Austria	--	--	(4)	5
China	365	1,540	1,190	4,670
France	147	1,100	846	6,290
Germany	20	139	53	484
Hong Kong	--	--	4	9
Italy	--	--	(4)	3
Japan	22	355	98	1,330
Malaysia	(4)	7	(4)	7
Mexico	--	--	3	16
Netherlands	--	--	(4)	3
Russia	37	163	1,170	5,910
Singapore	--	--	9	64
Spain	36	103	104	347
Sweden	--	--	2	6
Switzerland	--	--	(4)	30
Taiwan	2	15	24	65
United Kingdom	172	974	918	5,220
Total	800	4,390	4,430	24,500

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2004[1]

Stainless steel product	May		January-May	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	587	$2,700	2,970	$13,800
Flat-rolled (width > 600 mm)	10,400	25,900	71,800	168,000
Flat-rolled (width < 600 mm)	8,900	28,700	40,300	119,000
Bars and rods in irregular coils	261	981	1,430	4,750
Other bars and rods	1,780	8,840	9,460	53,000
Wire	604	4,340	3,670	23,700
Tubes, pipes, hollow profiles	2,620	12,900	14,600	66,400
Total	25,200	84,400	144,000	449,000
Stainless steel scrap	41,300	49,800	193,000	219,000
Grand total	66,500	134,000	337,000	669,000
Imports:				
Ingot	22,100	47,200	63,000	130,000
Flat-rolled (width > 600 mm)	25,900	62,000	120,000	268,000
Flat-rolled (width < 600 mm)	3,460	12,000	16,000	51,700
Bars and rods in irregular coils	3,930	10,000	15,400	35,500
Other bars and rods	5,840	17,000	25,600	72,700
Wire	2,900	11,300	15,700	55,300
Tubes, pipes, hollow profiles	7,100	32,500	33,200	140,000
Total	71,300	192,000	289,000	754,000
Stainless steel scrap	9,070	9,370	69,300	82,600
Grand total	80,300	201,000	359,000	837,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.